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Staff Memorandum

Arizona Corporation Commission

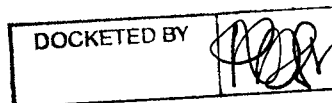
AZ CORP COMMISSION
DOCKET CONTROL

To: THE COMMISSION **DOCKETED** DOCKET NO. RR-03639A-07-0606

From: Safety Division

MAR 6 2008

Date: March 6, 2008



RE: IN THE MATTER OF THE APPLICATION OF THE UNION PACIFIC RAILROAD COMPANY TO ALTER TWO CROSSINGS OF THE UNION PACIFIC RAILROAD IN PINAL COUNTY, ARIZONA AT PARK LINK DRIVE AND MISSILE BASE ROAD.

Background

On October 19, 2007, the Union Pacific Railroad Company ("Railroad") filed with the Arizona Corporation Commission ("Commission") an application for approval for the Railroad to alter two crossings of the Railroad in Pinal County ("County"), Arizona by adding a second set of mainline tracks. These crossings are in Pinal County at Park Link Drive, AAR/DOT No. 741-714-K and Missile Base Road, AAR/DOT No. 741-716-Y. Commission Safety Division Staff ("Staff") issued data requests and those data requests and the Railroad's responses (without attachments), are included as attachments to this memorandum.

Union Pacific's filing in this application requests approval for the Railroad to construct a second main track, twenty feet from the center of the existing main track at two crossings in the jurisdiction of the Pinal County, (Park Link and Missile Base). This application is part of the Railroad's double tracking effort for their Sunset Route across Arizona.

On February 28, 2007, Staff, the Railroad, and Pinal County, participated in diagnostic reviews of the proposed improvements at Park Link and Missile Base Roads. All parties present were in agreement to the proposed improvements at the previously mentioned crossings. The following is a breakdown of each of the crossings in this application, including information about each crossing that was provided to Staff by the Railroad and its contractors.

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Geographical Information

Park Link Road is a graded gravel road which begins at the Interstate 10 frontage road on the east side of the Interstate (just north of Red Rock, Arizona) and moves east – northeast until it connects to the Arizona State Highway 79 just north-west of Oracle Junction, Arizona. The road is in a rural area with mixed desert and ranchland. The road is sometimes used as a shortcut between the Pinal-Pioneer Parkway (SR 79) and the Interstate to avoid having to cross over as far north as Florence or as far south as Tangerine Road. The railroad tracks run parallel to the Interstate and the park Link Road crossing is just east of the interstate.

Missile Base Road is a two lane paved road which begins at the Interstate 10 frontage road on the east side of the Interstate (approximately 8 miles north of the Tangerine Road exit) and moves east until it dead-ends just east of the Central Arizona Project Tucson Aqueduct. This road is also in a rural area.

Park Link Road

The proposed second main track at this crossing will be located south of the existing main track. The Railroad will re-profile a portion of the two lane rural asphalt road to meet the new tracks. The Railroad will also upgrade the existing warning equipment with new 12' LED flashing lights, gates and bells as well as a new concrete crossing surface and replace any impacted pavement markings. The proposed measures are consistent with safety measures employed at similar at-grade crossings in the state.

Traffic data for Park Link Road was provided to the Railroad by John Kraft of Pinal County. Data provided shows the Average Daily Traffic (ADT) for 2005 to be 315 vpd. Data provided shows the estimated ADT for 2025 to be 45,232 vpd. The current Level of Service ("LOS") for this two lane road is LOS A, for both north and south bound traffic.

Note: The American Association of State Highway and Transportation Officials (AASHTO) Geometric Design of Highways and Streets, 2004, states that the Level of Service characterizes the operating conditions on a facility in terms of traffic performance measures related to speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. This is a measure of roadway congestion ranging from LOS A--least congested--to LOS F--most congested. LOS is one of the most common terms used to describe how "good" or how "bad" traffic is projected to be.

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The posted speed limit on Park Link Road is 50 MPH. Commission Rail Safety Section, as well as Federal Railroad Administration ("FRA") accident/incident records indicate four accidents on Park Link Road, with two fatalities at this crossing. The fatalities occurred on 11/17/1983 and 12/24/2003. The other two accidents occurred on 4/13/1979 and 5/24/1985. Flashing lights and automatic gates were authorized at this crossing by Commission Order No. 48291, on 9/20/1977.

Alternative routes from this crossing are as follows; to the west 15.34 miles to Picacho Blvd., and to the east 6.04 miles to Missile Base Road.

The estimated cost of the proposed railroad crossing upgrade is \$247,037. The Railroad is paying for the entire cost of the crossing improvements, broken down by signal and crossing surface work, with the signal work costing \$216,157. and the crossing surface \$30,880.

Missile Base Road

The proposed second main track at this crossing will be north of the existing main track. The Railroad will re-profile a portion of the two lane asphalt road to meet the new track. The Railroad will also upgrade the existing warning equipment with new 12' LED flashing lights, gates and bells as well as a new concrete crossing surface. The proposed measures are consistent with safety measures employed at similar at-grade crossings in the state.

Traffic data provided by Jennifer Crumbliss of HDR Engineering, estimates the Average Daily Traffic ("ADT") for this crossing to be 1,716 vpd. A Pinal County Small Area Transportation Study ("SATS") done in 2006, show the projected ADT for this crossing to be 27,056 for the year 2025. The current Level of Service ("LOS") for the two lane road is LOS A, for both north and south bound traffic.

The posted speed limit on this road is 50 MPH. Commission Rail Safety Section, as well as Federal Railroad Administration ("FRA") accident/incident records indicate one accident at this crossing, with no injuries or fatalities.

Alternative routes from this crossing are as follows; to the west 6.04 miles to Park Link Road, and to the east 5.40 miles to Marana Road, both are at-grade crossings.

The estimated cost of the proposed railroad crossing upgrade is \$247,037. The Railroad is paying for the entire cost of the crossing improvements, broken

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down by signal and crossing surface improvements, with the signal improvements costing \$ 216,157, and the crossing surface \$30,880.

Train Data

Data provided by the railroad regarding train movements through these two crossings are as follows, and are the same for both crossings:

Train Count: 48 total average trains per day (46 freight, and 2 passenger trains)

Train Speed: 79 mph passenger / 70 mph freight

Thru Freight/Switching Moves: All train movements through these crossings are thru movements with no switching operations, according to Union Pacific, Manager of Train Operations, Rob Henderson. These crossings are used by Amtrak twice per day, three times per week.

Schools and Bus Routes

Information about schools, and school buses, in the area was provided by, Jennifer Crumbliss of HDR Engineering. There are no schools within four miles of Cox Road or Sunland Gin Road. There are several schools within Pinal County in the area of these two crossings.

They are as follows:

Santa Cruz High School @ 900 N. Main Street, Eloy, AZ 85231
Toltec Elementary School @ 3315 N Toltec Road, Eloy, AZ 85231
Toltec Middle School @ 12115 W Benito Drive, Eloy, AZ 85223
Youth Haven Desert Ranch @ 16848 S.Vail Road, Picacho, AZ 85241
Picacho Schools (K-8) @ 17865 S. Vail Road, Picacho, AZ 85241
Red Rock School @ 33655 W. Aguirre Lake, Red Rock, AZ 85245

Data provided to the railroad about school bus activity across these two crossings was provided by several different school officials in the area, from elementary schools to High Schools. They stated that all buses combined for the different age levels cross Park Link Road 4 times per day during the week, and Red Rock School buses cross Missile Base Road approximately 16 times per day. Union Pacific also reports, that they are not aware of any public passenger buses that use either of the crossings in this application.

Hazardous Materials

Staff asked the Union Pacific if they knew of any hazardous material traffic across these crossings, and this was their answer:

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Union Pacific has been unable to obtain any information responsive to this request. It is Union Pacific's understanding that any vehicle carrying hazardous materials may utilize public crossings unless otherwise posted, but Union Pacific knows of no way it can investigate or determine whether such vehicles use these crossings or with what frequency.

Hospitals

The nearest hospital to these crossings is Casa Grande Hospital (approximately 45 miles west of Park Link Road) and Northwest Medical Center in Marana (approximately 22 miles east of Missile Base Road). To our knowledge, none of these crossings are used extensively by emergency service vehicles.

Zoning

Staff requested the Railroad provide information regarding the type of zoning in adjacent areas from the crossing. The following was their response:

Union Pacific believes that the second part of CW 1.7 calls for speculation as to whether new housing developments, industrial parks, or other developments will occur in the future. In addition, Union Pacific does not have access to such information, but instead must rely on information provided by others. With those caveats, Union Pacific responds as follows:

Pinal County has a 2006 Land Use Map that matches the field diagnostic observations. The observed land use from the field diagnostics are shown below:

<i>Crossing</i>	<i>2007 Observed Land Use</i>
<i>Park Link Road</i>	<i>Rural Community & Industrial</i>
<i>Missile Base Road</i>	<i>Rural Community & Transitional</i>

Spur Lines

Union Pacific indicated that in the past three years, no spur lines have been removed from within a 10 mile radius of either of the crossings in this application.

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Vehicular Delays at Crossings

Based on the current single track configuration, the railroad gave the following response about delay time for vehicles at the two crossings in this application. The delay time is measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset.

Delays for vehicular (roadway) traffic caused by trains occupying a crossing depend on the length and speed of each train traversing the crossing.

Because each train can be unique for these values it would be impossible for Union Pacific accurately to provide the time of delay for vehicular traffic either while allowing trains to pass the crossing or because trains are stopped in the crossing. With that caveat, Union Pacific responds as follows:

Union Pacific operations are governed by maximum allowable speeds as identified by timetable. Trains at crossings involved in this application operate at timetable speeds of 65 mph and the average length of trains is approximately 6,000 feet. At that train length and speed, the average delay for vehicular traffic (1) to allow the train to pass at each of these crossings, measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset, is approximately 1.549 minutes.

The average time vehicular traffic is delayed (2) due to trains stopped on the track for any purpose, measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset, varies according to the condition creating the blockage. These varied conditions include mechanical failure such as a broken air hose, a grade crossing accident, or operations such as trains meeting or passing. Given the variety of possible conditions causing trains to be stopped on a crossing, Union Pacific does not catalog the average time vehicular traffic is delayed by stopped trains.

With that caveat, Union Pacific responds as follows: A.R.S. § 40-852 requires that, except in cases of unavoidable accident, a train blocking a crossing for more than 15 minutes must be cut to facilitate traffic flow. ACC Regulation R14-5-104(C)(7) and Union Pacific's operating practices allow a train to block a public grade crossing for no more than 10 continuous minutes, unless the train is continuously moving in the same direction during the entire time it occupies the crossing, or

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the blockage is caused by wrecks, derailments, acts of nature, mechanical failure, or other emergency conditions.

***Source:* Union Pacific's Engineering, in consultation with TKDA at 750 Shoreline Drive, Suite 100, Aurora, IL 60504, (630) 499-4110**

Based on the railroads double tracking project, and the projected number of 84 trains per day through these crossings by the year 2016, the railroad gave this response as to what future delay times would be for vehicles at the crossings in this application.

Delays for vehicular (roadway) traffic caused by trains occupying a crossing depend on the length and speed of each train traversing the crossing. Because each train can be unique for these values it would be impossible for Union Pacific accurately to provide the time of delay for vehicular traffic either while allowing trains to pass the crossing or because trains are stopped in the crossing. With that caveat, Union Pacific responds as follows:

Union Pacific operations are governed by maximum allowable speeds as identified by timetable. Trains at crossings involved in this application are projected to operate at timetable speeds of 65 mph and the average length of trains is projected to be approximately 8,000 feet. At that train length and speed, the average delay for vehicular traffic at this crossing in 2016 (1) to allow the train to pass at the crossing, measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset, is projected to be approximately 1.899 minutes.

The average time vehicular traffic is delayed (2) due to trains stopped on the track for any purpose, measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset, varies according to the condition creating the blockage. These varied conditions include mechanical failure such as a broken air hose, a grade crossing accident, or operations such as trains meeting or passing. Given the variety of possible conditions causing trains to be stopped on a crossing, Union Pacific does not catalog the average time vehicular traffic is delayed by stopped trains.

With that caveat, Union Pacific responds as follows: A.R.S. § 40-852 requires that, except in cases of unavoidable accident, a train blocking a crossing for more than 15 minutes must be cut to facilitate traffic flow. ACC Regulation R14-5-104(C)(7) and Union Pacific's operating

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practices allow a train to block a public grade crossing for no more than 10 continuous minutes, unless the train is continuously moving in the same direction during the entire time it occupies the crossing, or the blockage is caused by wrecks, derailments, acts of nature, mechanical failure, or other emergency conditions.

Source: Union Pacific's Engineering, in consultation with TKDA at 750 Shoreline Drive, Suite 100, Aurora, IL 60504, (630) 499-4110

Grade Separation

With regard to grade separating any of the crossings, the Railroad gave the following response:

Union Pacific understands that whether a grade separation is needed is primarily a question of mobility and convenience for vehicular traffic on the roadway, not safety. That is because an at-grade crossing can be safe without constructing a grade separation and eliminating the grade crossing. Based on this understanding, Union Pacific believes the question of whether a grade separation is needed is irrelevant to Union Pacific's application to add a second mainline track at these grade crossings. With that caveat, Union Pacific responds as follows:

In addition to the foregoing, grade separation is not appropriate for determination at this time because the local communities and roadway authorities have not finally determined whether grade separations at these crossings are desired by those communities and authorities, what priority grade separations would have with respect to other public projects, when construction of grade separations could be begun and finished, and how grade separations would be funded. Union Pacific is aware that the local communities and roadway authorities are studying these matters outside the context of Union Pacific's applications for grade crossing alterations.

Furthermore, Union Pacific believes the two crossings involved in this application are safe without constructing grade separations.

This conclusion is supported by the fact that the Federal Highway Administration authorizes the use of gates and lights at multiple-track grade crossings as proposed in this application.

It should be noted that Pinal County has told staff that the need for a grade separation is being discussed for this area, and is on several of the Counties SATS plans for the future. Pinal County has stated that the area where these two crossings are, is experiencing a large amount of growth, but is driven by developers in the area. The

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County stated the grade separation plans will depend on developer growth in the area. Currently, no funds have been allocated for a grade separation in this area.

Exposure Index

Utilizing the Exposure Index (the product of daily road traffic and the daily number of trains as a simplified method or "quick check" to indicate the potential for a grade separation) described in the report Grade Separations – When Do We Separate? by Nicholson and Reed (this report was provided to Commissioner's Offices on June 22, 2007), Staff have determined the following for this crossing:

Street Name	Year	Average Daily Traffic	Average Daily Trains	Exposure Index
Park Link Road	2005	315	48	15,120
	2025	45,232	84	3,799,488
Missile Base Road	2007	1,716	48	82,368
	2025	27,056	84	2,272,704

The authors of the above-referenced report state that, "when a predetermined value of the index is reached, further investigation is triggered. Examples of predetermined values range in one state from 15,000 for rural conditions to 30,000 for urban conditions, in another from 50,000 for roads on the state highway system to 100,000 for all other roads, and in a third, by speed (15,000 for rural conditions where roadway vehicle speeds are greater than 50 MPH)." The report further indicates that, "investigation described in this section has shown this method is quick, easy, and sufficiently accurate to represent an adequate initial or general screening tool to be used prior to proceeding with more detailed technical analysis."

While Staff agrees, the Exposure Index should not be used as the sole decision-making tool for determining the appropriateness of a grade separation, we note that future Exposure Index's seem high, and may warrant further investigation of grade separation of these crossing in the future by all parties involved.

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Having reviewed all applicable data, Staff supports the Railroads application. Staff believes that the upgrades are in the public interest and are reasonable. Therefore, Staff recommends approval of the Railroads application.

A handwritten signature in black ink, appearing to read "DRABER".

Dave Raber
Director
Safety Division

A handwritten signature in black ink, appearing to read "Brian H. Lehman".

Brian H. Lehman
Railroad Supervisor
Safety Division

ARIZONA CORPORATION COMMISSION
UNION PACIFIC'S RESPONSES TO FIRST SET OF DATA REQUESTS
DOCKET NO. RR-03639A-07-0606

Park Link Road and Missile Base Road in Pinal County, AZ

FEBRUARY 19, 2008

2008 FEB 19 P 4: 45

CW 1.1 Provide Average Daily Traffic Counts ("ADT") for each of the two locations.

Response: *With the exception of Missile Base, as to which HDR provided the information, Union Pacific Railroad Company ("Union Pacific") must rely on information provided by others to provide ADT's. With that caveat, Union Pacific responds as follows:*

<i>Crossing</i>	<i>Current ADT</i>	<i>Source</i>
<i>Park Link Road</i>	<i>315</i>	<i>CAAG 2005 Traffic Count data provided by John Kraft</i>
<i>Missile Base Road</i>	<i>1,716</i>	<i>2007 Traffic Counts by HDR</i>

Source: 1) Jennifer Crumbliss, HDR Engineering, 8404 Indian Hills Drive, Omaha, NE 68114. (HDR Traffic Counts)
 2) John Kraft @ Pinal County, PO Box 727, Florence, AZ 85232, (520) 866-6480.

CW 1.2 Please describe the current Level of Service ("LOS") at each intersection.

Response: *Union Pacific believes that the level of service analysis is concerned with mobility rather than safety. In addition, with the exception of Missile Base Road, as to which HDR provided the information, Union Pacific must rely on information provided by others to calculate the level of service. With those caveats, Union Pacific responds as follows:*

<i>Crossing</i>	<i>LOS</i>
<i>Park Link Road</i>	<i>Northbound (LOS=A), Southbound (LOS=A)</i>
<i>Missile Base Road</i>	<i>Northbound (LOS=A), Southbound (LOS=A)</i>

Source: *Traffic level of service calculations were performed using Synchro and SimTraffic programs under the direction of Heidi Schneider with HDR Engineering, Inc at 5210 E Williams Circle, Suite 503, Tucson, AZ 85711, (520) 584-3600. The train delay times utilized in the analysis were provided by Tom Domres, with TKDA at 750 Shoreline Drive, Suite 100, Aurora, IL 60504, (630) 499-4110 via Union Pacific.*

CW 1.3 Provide any traffic studies done by the road authorities for each area.

Response: 1) *The 2007 Pinal County Comprehensive Plan on*
<http://www.co.pinal.az.us/PlanDev/PDCP/CPInfo.asp>
2) *2006 Pinal County SATS (Small Area Transportation Study) on*
<http://www.co.pinal.az.us/PubWorks> under "Downloads"
3) *2007 Final City of Casa Grande SATS on*
http://www.ci.casa-grande.az.us/dev_center/development_center.php

CW 1.4 Provide distances in miles to the next public crossing on either side of the proposed project location. Are any of these grade separations?

Response: *Union Pacific believes that the last question in CW 1.4 raises an issue that is irrelevant, namely, whether either of the next public crossings is a grade separation. With that caveat, Union Pacific responds as follows:*

<i>Crossing</i>	<i>TO THE WEST</i>	<i>TO THE EAST</i>
<i>Park Link Road</i>	<i>15.34 miles to Picacho Blvd</i>	<i>6.04 miles to Missile Base</i>
<i>Missile Base Road</i>	<i>6.04 miles to Park Link Rd</i>	<i>5.40 miles to Marana Road</i>

None of the adjacent crossings are grade separated.

Source: *HDR's use of the Union Pacific Straight-line Diagrams and*
www.MapQuest.com.

CW 1.5 How and why was grade separation not decided on at this time? Please provide any studies that were done to support these answers.

Response: *Union Pacific understands that whether a grade separation is needed is primarily a question of mobility and convenience for vehicular traffic on the roadway, not safety. That is because an at-grade crossing can be safe without constructing a grade separation and eliminating the grade crossing. Based on this understanding, Union Pacific believes the question of whether a grade separation is needed is irrelevant to Union Pacific's application to add a second mainline track at these grade crossings. With that caveat, Union Pacific responds as follows:*

In addition to the foregoing, grade separation is not appropriate for determination at this time because the local communities and roadway authorities have not finally determined whether grade separations at these crossings are desired by those communities and authorities, what priority grade separations would have with respect to other public projects, when construction of grade separations could be begun and finished, and how grade separations would be funded. Union Pacific is aware that the local communities and roadway authorities are studying

these matters outside the context of Union Pacific's applications for grade crossing alterations.

Furthermore, Union Pacific believes the two crossings involved in this application are safe without constructing grade separations. This conclusion is supported by the fact that the Federal Highway Administration authorizes the use of gates and lights at multiple-track grade crossings as proposed in this application.

CW 1.6 If this crossing were to be grade separated, provide a cost estimate of the project.

Response: Again, Union Pacific understands that whether a grade separation is needed is primarily a question of mobility and convenience for vehicular traffic on the roadway, not safety. That is because an at-grade crossing can be safe without constructing a grade separation and eliminating the grade crossing. Based on this understanding, Union Pacific believes the question of whether a grade separation is needed is irrelevant to Union Pacific's application to add a second mainline track at these grade crossings. In addition, any attempt to estimate the cost to construct a grade separation would be speculative in the absence of a detailed study of the particular crossing in question. With those caveats, Union Pacific responds as follows:

In connection with its recent application to upgrade the crossing of Union Pacific tracks at the intersection of Power and Pecos Roads, RR-03639A-07-0398, the Town of Gilbert estimated that a grade separation at that location would cost \$22 million. Depending on the particular crossing involved, a reasonable range for the costs of constructing a grade separation would be between \$20 million and \$40 million.

CW 1.7 Please describe what the surrounding areas are zoned for near this intersection. i.e. Are there going to be new housing developments, industrial parks, etc.?

Response: Union Pacific believes that the second part of CW 1.7 calls for speculation as to whether new housing developments, industrial parks, or other developments will occur in the future. In addition, Union Pacific does not have access to such information, but instead must rely on information provided by others. With those caveats, Union Pacific responds as follows:

Pinal County has a 2006 Land Use Map that matches the field diagnostic observations. The observed land use from the field diagnostics are shown below:

<i>Crossing</i>	<i>2007 Observed Land Use</i>
<i>Park Link Road</i>	<i>Rural Community & Industrial</i>
<i>Missile Base Road</i>	<i>Rural Community & Transitional</i>

Pinal County planning departments can better answer the question of future developments. They review development impact studies and regulate zoning.

Source: 1) 2006 Pinal County SATS (Small Area Transportation Study) on <http://www.co.pinal.az.us/PubWorks> under "Downloads"
2) The Central Arizona Association of Governments' Planning Department(CAAG) <http://www.caagcentral.org/GIS/gishome.html>

CW 1.8 Please supply the following: number of daily train movements through the crossing, speed of the trains, and the type of movements being made (i.e. thru freight or switching). Is this a passenger train route?

Response: *The movements are the same for these two crossings.*

*Train Count: 48 total average trains per day (46 freight, 2 passenger)
Train Speed: 79 mph passenger / 70 mph freight
Thru Freight/Switching Moves: All moves through these two crossings are thru freight. (According to MTO Rob Henderson there are no switching moves at these crossings.)*

These crossings are used by Amtrak twice per day, three times per week.

Source: *Union Pacific's Manager of Train Operations, Rob Henderson.*

CW 1.9 Please provide the names and locations of all schools (elementary, junior high and high school) within the area of the crossing.

Response: *There are several schools in Pinal County within the area of the two crossings in this application.*

*Santa Cruz High School @ 900 N. Main Street, Eloy, AZ 85231
Toltec Elementary School @ 3315 N Toltec Road, Eloy, AZ 85231
Toltec Middle School @ 12115 W Benito Drive, Eloy, AZ 85223
Youth Haven Desert Ranch @ 16848 S.Vail Road, Picacho, AZ 85241
Picacho Schools (K-8) @ 17865 S. Vail Road, Picacho, AZ 85241
Red Rock School @ 33655 W. Aguirre Lake, Red Rock, AZ 85245*

Source:

- 1) *Jennifer Crumbliss, Senior Transportation Engineer with HDR, Engineering, Inc. at 8404 Indian Hills Drive, Omaha, NE 68114, (402) 926-7049 used the internet site www.GoggleEarth.com also,*
- 2) *Juan Cruz, Roadway Designer with HDR in Tucson, physically verified hospital and school locations on June 14, 2007.*

CW 1.10 Please provide school bus route information concerning the crossing, including the number of times a day a school bus crosses this crossing.

Response: *The buses, combined, cross the Park Link Road crossing 4 times per day during the week. Red Rock School buses cross the Missile Base Road crossing 16 times per day.*

Source:

- 1) *Jesse Rosel, Transportation Director for Santa Cruz High School located at 900 N. Main Street, Eloy, AZ 85231, (520) 466-2200*
- 2) *Linda Lawson, Admin Assistant for Toltec Elementary School located at 3315 N Toltec Road, Eloy, AZ 85231, (850) 466-2360*
- 3) *Marilyn Lyman, Office Manager for Youth Haven Desert Ranch located at 16848 S. Vail Road, Picacho, AZ 85241, (520) 466-3093*
- 4) *Juan Castillo, Director of Plan Operations for Picacho Schools located at 17865 S. Vail Road, Picacho, AZ 85241, (520) 466-7942.*
- 5) *Jose Espinosa, Transportation Supervisor for Red Rock School located at 33655 W. Aguirre Lake, Red Rock, AZ 85245, (520) 682-3331*

CW 1.11 Please provide information about any hospitals in the area and whether the crossing is used extensively by emergency service vehicles.

Response: *The nearest hospital to these crossings is Casa Grande Regional Hospital (approximately 45 miles west of Park Link Road) and NW Medical Center in Marana (approximately 22 miles east of Missile Base Road). To our knowledge, none of these crossings is used extensively by emergency service vehicles.*

Source:

Jennifer Crumbliss, Senior Transportation Engineer with HDR, Engineering, Inc. at 8404 Indian Hills Drive, Omaha, NE 68114, (402) 926-7049 used the internet site www.GoggleEarth.com also, Juan Cruz, Roadway Designer with HDR in Tucson, physically verified hospital and school locations on June 14, 2007.

CW 1.12 Please provide the total cost of improvements to each crossing.

Response:

<i>Crossing</i>	<i>Crossing Surface</i>	<i>Signal</i>	<i>Total</i>
<i>Park Link Road</i>	\$ 30,880.00	\$216,157.00	\$247,037.00
<i>Missile Base Road</i>	\$ 30,880.00	\$216,157.00	\$247,037.00

Source: Union Pacific's Engineering.

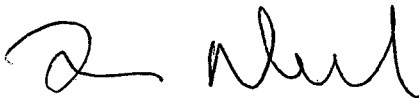
ORIGINAL AND THIRTEEN COPIES
of the foregoing filed this 19th day of
February, 2008, with:

Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

COPY of the foregoing hand-delivered
this 19th day of February, 2008, to:

Mr. David Raber
Mr. Brian Lehman
Mr. Chris Watson
Railroad Safety Section
Arizona Corporation Commission
2200 North Central Avenue, #300
Phoenix, Arizona 85004

Janice M. Alward, Esq.
Charles H. Hains, Esq.
Legal Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007



Dan Norkol

ARIZONA CORPORATION COMMISSION
UNION PACIFIC'S RESPONSES TO SECOND SET OF DATA REQUESTS
DOCKET NO. RR-03639A-07-0606
Park Link Road and Missile Base Road in Pinal County, AZ
FEBRUARY 29, 2008

CW 2.1 Based on the current single track configuration at the crossings specified by this application, please provide the current traffic blocking delay per train. Please indicate the time in which vehicular traffic is delayed (1) to allow the train to pass at a crossing and (2) due to trains stopped on the track for any purpose. The delay is measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset.

Response: Delays for vehicular (roadway) traffic caused by trains occupying a crossing depend on the length and speed of each train traversing the crossing. Because each train can be unique for these values it would be impossible for Union Pacific accurately to provide the time of delay for vehicular traffic either while allowing trains to pass the crossing or because trains are stopped in the crossing. With that caveat, Union Pacific responds as follows:

Union Pacific operations are governed by maximum allowable speeds as identified by timetable. Trains at crossings involved in this application operate at timetable speeds of 65 mph and the average length of trains is approximately 6,000 feet. At that train length and speed, the average delay for vehicular traffic (1) to allow the train to pass at each of these crossings, measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset, is approximately 1.549 minutes.

The average time vehicular traffic is delayed (2) due to trains stopped on the track for any purpose, measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset, varies according to the condition creating the blockage. These varied conditions include mechanical failure such as a broken air hose, a grade crossing accident, or operations such as trains meeting or passing. Given the variety of possible conditions causing trains to be stopped on a crossing, Union Pacific does not catalog the average time vehicular traffic is delayed by stopped trains.

With that caveat, Union Pacific responds as follows: A.R.S. § 40-852 requires that, except in cases of unavoidable accident, a train blocking a crossing for more than 15 minutes must be cut to facilitate traffic flow. ACC Regulation R14-5-104(C)(7) and Union Pacific's operating

practices allow a train to block a public grade crossing for no more than 10 continuous minutes, unless the train is continuously moving in the same direction during the entire time it occupies the crossing, or the blockage is caused by wrecks, derailments, acts of nature, mechanical failure, or other emergency conditions.

Source: Union Pacific's Engineering, in consultation with TKDA at 750 Shoreline Drive, Suite 100, Aurora, IL 60504, (630) 499-4110

CW 2.2 Based on anticipated double tracking at the crossings covered by this application and projected train traffic of 84 trains per day by 2016, please provide the projected (2016) blocking delay per train. Please indicate the time in which vehicular traffic is delayed (1) to allow the train to pass at a crossing and (2) due to trains stopped on the track for any purpose. The delay is measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset.

Response: Delays for vehicular (roadway) traffic caused by trains occupying a crossing depend on the length and speed of each train traversing the crossing. Because each train can be unique for these values it would be impossible for Union Pacific accurately to provide the time of delay for vehicular traffic either while allowing trains to pass the crossing or because trains are stopped in the crossing. With that caveat, Union Pacific responds as follows:

Union Pacific operations are governed by maximum allowable speeds as identified by timetable. Trains at crossings involved in this application are projected to operate at timetable speeds of 65 mph and the average length of trains is projected to be approximately 8,000 feet. At that train length and speed, the average delay for vehicular traffic at this crossing in 2016 (1) to allow the train to pass at the crossing, measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset, is projected to be approximately 1.899 minutes.

The average time vehicular traffic is delayed (2) due to trains stopped on the track for any purpose, measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset, varies according to the condition creating the blockage. These varied conditions include mechanical failure such as a broken air hose, a grade crossing accident, or operations such as trains meeting or passing. Given the variety of possible conditions causing trains to be

stopped on a crossing, Union Pacific does not catalog the average time vehicular traffic is delayed by stopped trains.

With that caveat, Union Pacific responds as follows: A.R.S. § 40-852 requires that, except in cases of unavoidable accident, a train blocking a crossing for more than 15 minutes must be cut to facilitate traffic flow. ACC Regulation R14-5-104(C)(7) and Union Pacific's operating practices allow a train to block a public grade crossing for no more than 10 continuous minutes, unless the train is continuously moving in the same direction during the entire time it occupies the crossing, or the blockage is caused by wrecks, derailments, acts of nature, mechanical failure, or other emergency conditions.

Source: Union Pacific's Engineering, in consultation with TKDA at 750 Shoreline Drive, Suite 100, Aurora, IL 60504, (630) 499-4110

CW 2.3 Please provide the posted vehicular speed limit for the roads intersecting each crossing covered in this application.

Response:

Crossing	Posted Vehicular Speed Limit
Park Link Road	55 mph*
Missile Base Road	55mph*

* Although these are the posted speed limits, each of these crossings is within 200 feet of a road with stop conditions that runs parallel to the tracks. Thus, the speeds of vehicles traveling across the crossings actually average approximately 25 mph.

Source: Jennifer Crumbliss, Senior Transportation Engineer with HDR, Engineering, Inc. at 8404 Indian Hills Drive, Omaha, NE 68114

CW 2.4 Please provide information as to whether passenger buses (other than school buses) utilize this crossing and the number of times a day a passenger bus crosses.

Response: Union Pacific does not have access to such information, but instead must rely on information provided by others. With that caveat, Union Pacific responds that it is not aware of any public passenger buses that utilize either of the crossings involved in this application.

- Source:**
- 1) Christine McMurdy, Public Works Department, City of Goodyear, 190 N. Litchfield Road, Goodyear, AZ 85338, (623) 932-1637
 - 2) Karen Thomas, GIS Department, City of Maricopa, 45145 W. Madison Avenue, P.O. Box 610, Maricopa, AZ 85239, (520) 568-9098
 - 3) Aaron Cart, GIS Department, City of Casa Grande, 510 E. Florence Blvd., Casa Grande, AZ 85222, (520) 421-8625
 - 4) Belinda Cota, Planning Department, City of Eloy, 628 N. Main Street, Eloy, AZ 85231, (520) 466-2578

CW 2.5 Please provide information as to whether vehicles carrying hazardous materials utilize this crossing and the number of times a day a vehicle carrying hazardous materials crosses.

Response: Union Pacific has been unable to obtain any information responsive to this request. It is Union Pacific's understanding that any vehicle carrying hazardous materials may utilize public crossings unless otherwise posted, but Union Pacific knows of no way it can investigate or determine whether such vehicles use these crossings or with what frequency.

CW 2.6 Please indicate whether any spur lines have been removed within the last three years inside a 10 mile radius of any crossings covered in this application. Please include the reason for the removal, date of the removal and whether an at-grade crossing or crossings were removed in order to remove the spur line.

Response: Using the definition of a "spur line" or "spur track" as "a stub track of indefinite length diverging from a main track or other track," ACC Regulation R14-5-101(20), no spur lines have been removed within the last three years inside a 10-mile radius of any crossings covered in this application.

CW 2.7 Please indicate which, if any, spur lines have been removed within the last three years inside a 10 mile radius of any crossings covered in this application were done at the direction or request of (1) the relevant road authority, (2) the industry served by the spur line, or (3) by the railroad.

Response: Not applicable. See Response to CW 2.6.

ORIGINAL AND THIRTEEN COPIES
of the foregoing filed this 29th day of
February, 2008, with:

Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

COPY of the foregoing hand-delivered
this 29th day of February, 2008, to:

Mr. David Raber
Mr. Brian Lehman
Mr. Chris Watson
Railroad Safety Section
Arizona Corporation Commission
2200 North Central Avenue, #300
Phoenix, Arizona 85004

Janice M. Alward, Esq.
Charles H. Hains, Esq.
Legal Division
Arizona Corporation Commission
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Phoenix, Arizona 85007

Dan Norkol

PINAL COUNTY
BOARD OF SUPERVISORS

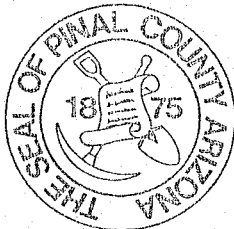
CHRIS WATSON

LIONEL D. RUIZ, District 1
Mammoth

SANDIE SMITH, District 2
Apache Junction

DAVID SNIDER, District 3
Casa Grande

January 9, 2008



RECEIVED

2008 JAN 15 A 10:43

TERRY DOOLITTLE
County Manager

AZ CORP COMMISSION
BOOKET CONTROL

RR 03639A-07-0606

Mr. David Raber
Director, Safety Division
Arizona Corporation Commission
2200 North Central Avenue
Suite 300
Phoenix, Arizona 85004

Re: Support for Union Pacific Railroad Company's Double-Track Project

Dear Mr. Raber:

This letter will serve to inform you that Pinal County fully supports Union Pacific Railroad Company's project to construct a second main line railroad track through Pinal County and the State of Arizona, known as "Union Pacific's Double-Track Project." Specifically, Pinal County fully supports and approves, and will to cooperate with Union Pacific concerning, construction of one additional main track over and across public roadway crossings of the Union Pacific Railroad tracks at grade within Pinal County, as listed on Exhibit A attached hereto. Pinal County therefore requests that the Arizona Corporation Commission approve each application filed by Union Pacific for authority to install a second main line railroad track at grade at those crossings listed on Exhibit A.

If it would be helpful to the Commission or its Staff, Pinal County would be pleased to have its representative appear at any hearings or meetings concerning Union Pacific's crossing alteration applications to the Commission to confirm the County's support and approval of those applications. If you have any questions or wish to discuss the County's position with respect to these matters, please do not hesitate to contact me.

Sincerely,

David Snider, Chairman

c: Board of Supervisors
Ken Buchanan, Assistant County Manager
for Development Services
Chief Civil Deputy County Attorney, Chris Roll